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EFFECT OF ONE MONTH FASTING IN RAMADAN ON HEALTHRELATED PHYSICAL FITNESS AND SELECTED PHYSIOLOGICAL PARAMETERS OF COLLEGE STUDENTS IN KASHMIR

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EFFECT OF ONE MONTH FASTING IN RAMADAN ON HEALTH RELATED PHYSICAL FITNESS AND SELECTED PHYSIOLOGICAL PARAMETERS OF COLLEGE STUDENTS IN KASHMIR

1. INTRODUCTION

The month of Ramadan is one of the 9th months of the Islamic calendar. Allah Almighty says, “The number of months in the sight of Allah is twelve (in a year)—so ordained by Him the day He created the heavens and the earth”

Fasting is defined as a partial or total abstention from all foods, or a select abstention from prohibited foods. As a potential non-pharmacological intervention for improving health and increasing longevity, fasting has been the subject of numerous scientific investigations. The three most commonly studied fasts are caloric restriction (CR), alternate-day fasting (ADF), and dietary restriction (DR). A summary of the main findings is presented below.

During the holy month of Ramadan, Muslims refrain from eating or drinking starting from dawn till dusk. To prepare for the fasting, Muslims wake up before dawn and the fajr prayer to eat a meal (Sahoor). Muslims break their fast at Maghrib (at sunset) prayer time with a meal called Iftar. Muslims are expected to put more effort into following the teachings of Islam and to avoid obscene and irreligious sights and sounds. The fast is intended to be an exacting act of deep personal worship in which Muslims seek a raised awareness of closeness to God. The act of fasting is said to redirect the heart away from worldly activities, its purpose being to cleanse the inner soul and free it from harm. It also teaches Muslims to practice self-discipline, self-control, sacrifice, and empathy for those who are less fortunate; thus encouraging actions of generosity and charity. Fasting in the month of Ramadan is compulsory on every Muslim adult. The main purpose of the study was to find out the effect of one month fast during Ramdan month on the selected Physiological and Physical fitness components of college students. It was hypothesized that there would be significant effect of one month fasting on selected Physiological and Physical fitness components.

Fasting during Ramadan is a religious tradition which is a major obligation upon every healthy Muslim who has passed puberty. Fasting is not synonymous with food poverty or receiving inadequate portions of food. The purpose of the mechanism is to improve the

adaptability of human body and also decrease the oxidation of fats and carbohydrates (1-2). Thus, Ramadan with its special features leads to certain changes in lifestyle. The amount of food and water consumed per person declines, the number of meals per day drops, and thus daily physical activities and sleep cycle alter (3). Certain food components and increased fat consumption accounts for approximately 36 percent of the required energy for the body is provisioning from the consumption of polyunsaturated fatty acids (4). As a result, in the first week of Ramadan, the response is an outcome of multiple metabolic disorders. However, within the last week of the month the body reaches a level of compatibility (5). In the fasting month of Ramadan, significant changes appear in lifestyle; for instance, there are fewer numbers of meals per day, shorter night sleep, reduced physical activity and increased overall exhaustion (6-7).

Different authors and researchers did many studies and researchers on various health related fitness and general class room achievement of different students and brought out many studies results and many conclusions, are made which proved out to be very useful to different future studies.

The study of the health related physical fitness and academic performance of students is very useful and helpful process for the physical education teacher to know the level of fitness of the students. By knowing that the physical education teacher will find it easily good players of their games and sports. Therefore, the researcher thought to find out the physical fitness level.

In today's techno scientific age the world has completely changed in all aspects due to discovery and research (ballad, 1992).The main aspects to be emphasized in order to achieve high level of performance in physiological fitness. For the physiological system of the body to be fit, they must function well enough to support the particular activity that the individual in performing since different activities make different demands upon the organism (Lawrence, 1982).

Physiological parameters under investigation are pulse rate, blood pressure and vital capacity. One's heart rate is a simple and accurate gauge to cardiovascular fitness. As one's fitness level increases, his/her heart rate, will become slower stronger and more regular. It is best to take one's heart rate when a person wakes up in the morning because any of emotional or physical exertion will effect it during the day.

1.1.

Statement of the Problem

In the light of the above, the investigator becomes interested in determining the Effect of One Month Fasting in Ramadan on Health Related Physical Fitness and Selected Physiological Parameters of College Students in Kashmir. The problem was stated "Effect of One Month Fasting in Ramadan on Health Related Physical Fitness and Selected Physiological Parameters of College Students in Kashmir".

1.2. Objectives of the study

1. To know the effect of one month fasting in Ramadan on health related physical fitness of college students in Kashmir.
1. The another objective of the study is to know the effect of one month fasting in Ramadan on selected physiological parameters of college students in Kashmir.

1.3. Hypotheses

1. There will be significant effect of fasting in Ramadan on health related physical fitness.
2. On the basis of literatures, discussion with experts and research scholars own understanding it will be hypothesized that it may be significant difference on health related physical fitness of colleges students in Kashmir.
3. It will be further hypothesized that there may be significant change in selected Physiological parameters due to fasting in Ramadan of college Students in Kashmir.

1.4. Delimitation of the study

The present study will be restricted to the following aspects.

1. 60 male students of different colleges of North Zone of Kashmir valley will be selected.
2. The age of the subjects will be ranging from 19-25 years.
3. The health related physical fitness Variables will be delimited to the following:-
   (a) Muscular Strength
   (b) Muscular Endurance
   (c) Cardio-Respiratory Endurance.
   (d) Flexibility

4. The Physiological variables will be delimited to the following:-
   (a)Heart Rate
   (b)Blood Pressure
   (c) Respiratory Rate
   (d)Vital Capacity

1.5. LIMITATIONS:

i. The coaching and physical training background of players will be unknown to the scholar.

ii. Diet, Health status and socio-economic condition will not be known to the scholar.

iii. No specific motivational technique will be adopted to encourage or discourage the selected subjects while the data will be collected.

1.6. Operational Definition of the Term

a) Health related fitness :

"A state characterized by an ability to perform daily activities with vigor and demonstration of traits and capacities that are associated with low risk or premature development of the hypo- kinetic disease".

b) Muscular Strength :

Is the minimal one effort force that can be exerted against a resistance, the minimum amount of force that can generate in a isolated movement of a single muscle group.

In other words, maximal contraction power of the muscles is known as muscular strength. The muscular strength is usually measured with respect to individual group of muscles acting together.

c) Cardio-respiratory Endurance :

As the ability to continue or persist strenuous tasks involving large muscle groups for intended period of time.

d) Flexibility :

Flexibility is the ability to perform a joint action through a range of movement.

e) Heart Rate: - Heart rate is the speed of heart beat measured by the number of heartbeats per unit of time typically beats per minute (bpm).

f) Respiratory Rate:-The respiratory rate is also known as the ventilation rate, ventilator rate, ventilation frequency, respiration frequency, pulmonary ventilation rate,or breathing frequency is the rate of ventilation that is the number of breaths taken with a set amount of time.

g)Blood pressure: The pressure exerted by the blood against the walls of the arteries and veins; it varies during the heartbeat cycle, and according to a person's age, health and physical condition.

h)Vital Capacity: -The greatest volume of air that can be expelled from the lungs after taking the deepest possible breath.

2. REVIEW OF RELATED LITERATURE

The review of literature is generally used as a basis for inductive reasoning for locating and synthesizing all the relevant literature on particular topic

3. METHODOLOGY

The method s sources of Data, Selection of the subject, Sampling techniques, Selection of variables, Tool(s) and Test(s) to be used and Administration of Training Programme.

3.1. SOURCE of Data

For the present study the male College Students of North Zone of Kashmir Valley, will be the source of data.

3.2. Selection of the Subjects

60 male collegestudents from North Zone of Kashmir valley will be selected as subjects for this study. The age of the subjects will be ranging from 19 to 25 years.

3.3. Sampling Procedure

Purposive sampling procedure will be adopted for the selection of subjects.

3.4. Selection of Variables

Health Related Physical Fitness Variables (HRPFV)

(a) Muscular Strength
(b) Muscular Endurance
(c) Cardio-Respiratory Endurance.
(d) Flexibility

Physiological Variables

- Heart Rate
- Blood Pressure
- Respiratory rate
- Vital capacity

3.5. Selection of Test and Criterion Measures

The criterion measures for the selected variables will be chosen are given below:-

- Heart rate will be counted in number by the ventral aspect of wrist on the side of the thumb (radial artery).
- The respiratory rate will be counted by using stopwatch and the score will be recorded in number of up and down movements of the abdomen due to exhalation or inhalation in one minute.
- Vital capacity will be measured by using dry spirometer and the score will be recorded in litre.

3.6. Administration of the Test

The data will be collected Pre, during and Post Ramadan.

Health Related physical Fitness

1. **Pull-ups**

Purpose -

To measure arm and shoulder strength.

Equipment –

A wooden or metal bar approximately 1 ½ inches in diameter.

Procedure –

The bar was adjusted to such height that the subjects could hang free of body off the floor. The subject grasped the bar with his palms facing away from his body. The subjects then raised his body until his chin was over the bar and then lower it again to the starting position with his arms fully extended.

Scoring –

One point was scored each time the subject completed a pull-ups. Part score did not count and only one trial was permitted.

2. **Bent – Knee Sit-up –**

To measure the abdominal strength and endurance

Equipment –

Mat and Stop watch.

Procedure -

The subject was flat on the back with knee bent and feet on the floor with heels not more than one foot from the buttocks. The knee angle should not less than $90^{o.}$ The fingers were

interlocked and placed behind the neck with elbow touching the floor. The feet were held securely by a partner. The subject then curls-up to a sitting position and touches the elbow to the knees. This exercise is repeated as much forces as possible in the given time.

Scoring –

One point was scored for each correct Sit-up. The score was the maximum number of sit-ups completed is 60 seconds.

3. **1 mile Run and Walk -**

Purpose –

To measure the cardio-vascular efficiency.

Equipment –

Stop watch, and whistle.

Procedure –

The subjects stood behind the starting line of the running space on 400 mts track. The subjects run or walk individually or in groups. When subjects run in groups they were paired into partners listen for the times to the score. Subjects were encouraged to pace themselves. When a group was running, the timer can call out times, as each subject cross the finish line.

Scoring –

The score was recorded as the elapsed in minutes and seconds.

Physiological Variables

Heart Rate

Purpose: To measure the resting Heart rate of subjects.

Equipment: Stop watch.

Procedure: The resting Heart rate will be taken under the resting condition. To conduct the test the subjects will be made to lie down on ground for 10 minutes to eliminate the effect of previous work if any. The resting Heart rate will be determined by the palpation of the radial artery (at the wrist). The number of pulse (heart beats) will be counted for 60 seconds for an accurate estimation of the pulse rate. The time will be started on the first beat of palpation but the count was started from the second beat.

Scoring: The total number of palpation per minute for each subject will be recorded as score.

Blood Pressure

Equipment: Digital apparatus

Objective: To measure the blood pressure.

Description: Electronic blood pressure measuring devices are becoming the norm now mercury is being phased out because of its hazardous nature. Most of these are now accurate enough for routine clinical use and are relatively inexpensive. To check the blood pressure and pulse rate of players. The investigator used digital blood pressure apparatus machine.

Scoring: The systolic and diastolic blood pressure was recorded in millimeter of mercury pressure (mm hg) as the score of the each subject. The basal pulse rate per minute was recorded as the score of each subject.

Vital capacity

Equipments:-Dry spirometer

Purpose:- To measure the vital capacity.

Procedure:- After a couple of normal breaths, the subject will be asked to take a deep breath and exhales into spirometer as force fully as possible.

Respiratory rate

Equipments: - Stop watch and mat.

Purpose: - To measure the inhalation and exhalation of the subjects.

Procedure: - The subjects will be asked to rest in supine lying position on the mat. The respiratory rate of the subject will be counted as inhalation and exhalation by the subject for one

minute by putting the hands of the researcher on the (belly) lower abdomen of the subject and the researcher will count the number of up and down movement of the lower abdomen in one minute.

Scoring: - The total number of exhalation or inhalation per minute was recorded for each subject

3.7.Collection of data

The data will be collected through above mentioned tests, and also before collection of data the research scholar will explain the purpose of the study to the subjects and will explain the method of performance and will demonstrate the way to perform the task in front of the subjects

3.8. Ethical Consideration

In collecting the data, the researcher Follow to ethical guidelines, principles, and standards for studies conducted with human beings. The study included safeguards for protecting humans, which involved three major ethical principles: beneficence, respect for human dignity, and human justice. Beneficence is the protection of participants from physical and psychological harm, exploitation, and performance of some good.

3.9. Inclusion and exclusion criteria

The inclusion and exclusion criteria for participants were as follows:

The inclusion criteria are:

1. The participant agreed to participate in the study via an informed consent.
2. The participants must be college students ranging between 19 to 25 years.
3. Only male students will be included.
4. Only Fasting Students will be included.

<u>The exclusion criteria are:</u>

1. Female Students will be excluded.
2. Non-Fasting Students will be excluded.

3.10. Importance of study/ Society application:

1. Ramadan is an importantevent in Muslim Culture, which considers a month fasting that, might result in to various Psychophysiological and fitness changes. Since no experience evidence is available about the impact of Ramadan, this investigation may help to establish its impact on health related physical fitness and physiological variables.

This study may help the obese Kashmiri Students for controlling their excessive wait and related variables

2. The findings of the study will be useful in assisting educators, counselors, and researchers.

3. It will improve and inform the Health related fitness and selected physiological variables.

4. It will help in spreading Health knowledge

5. Significance of study emphasis on the overcome the sedentary lifestyle.

6. Will relate the Ramadan with Health related fitness andselected physiological variables.

7. Various health sectors will get benefit in establishing and spreading the awareness after analyzing the result

3.11. Proposed work Plan/ Formulation and Structure of Study:

1st Year	**Plan**
	Literature Collection
	Submission of Progress Report
	Pilot study
	Submission of Progress Report
	Start experimental test
2nd Year	Detail study
	Data Collection,
	Compilation of data
	Preparation of Research Paper
	Submission of Progress Report
	Submission of Utilization certificate
3rd year	Use of SPSS Software
	Preparation of Graphs
	Data Interpretation
	Final Compilation of Data
	Preparation of Research Paper & Communicating it for Publication
	Report Writing
	Submission of Final Report

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